

WHAT IS CLAIMED IS:

1. A semiconductor light-emitting device formed on a same
lead frame on which a plurality of semiconductor light-
emitting devices are formed in a straight line at a uniform
spacing, said each semiconductor light-emitting device
comprising:
a plurality of lead means placed in parallel;
semiconductor light-emitting means mounted on the
upper end of one of said leads;
bonding wire means for electrically connecting the
semiconductor light-emitting means and the upper end of
another lead means with a long axis and a short axis; and
envelope means formed from a light-transmitting resin
for sealing said semiconductor light-emitting means, said
bonding wire, and the upper end of said lead, provided with
a non-circular lateral cross-sectional surface structure,
wherein when observed along a direction in which the
plurality of light-emitting devices are mounted on the lead
frame, a curvature of the lateral direction of said
envelope is smaller than a curvature of the vertical
direction of said envelope.
2. A semiconductor light-emitting device as claimed in
claim 1, wherein the lateral cross-section of said envelope
is shaped by being cut one part of said envelop in a
straight line along the direction in which the plurality of
light-emitting devices are mounted on the same lead frame.
3. A semiconductor light-emitting device as claimed in
claim 1, wherein the lateral cross-sectional shape of said
envelop means is an ellipse shape.
4. A semiconductor light-emitting device as claimed in
claim 1, wherein the number of said lead means is two, and
the number of said semiconductor light-emitting means is

one.

5. A semiconductor light-emitting device as claimed in claim 1, wherein the number of said lead means is three, and
5 the number of said semiconductor light-emitting means is two.

6. A manufacturing process for a plurality of semiconductor light-emitting devices on a plurality of lead
10 frames, on each of the lead frames a plurality of semiconductor light-emitting devices are formed, comprising steps of:

a process for forming the lead frame with a plurality of groups of side-by-side leads positioned in a straight
15 line at a uniform spacing;

a process for forming an envelope adjusting jig whereon cavities at a plurality of points are positioned on the non-circular lateral cross-sectional surface structure, with a long axis and a short axis, so that when
20 observed along a direction in which the plurality of light-emitting devices are formed on the same lead frame, a curvature of the lateral direction of said each envelope in the same lead frame is smaller than a curvature of the vertical direction of said each envelope, and the short
25 axis is positioned on a straight line at a spacing which is the same spacing as the group of leads;

a process for mounting the semiconductor light-emitting element on the upper end of one lead of the group of leads and for connecting the semiconductor
30 light-emitting element and the upper ends of the other leads of the group of leads with bonding wires;

a process for filling the light-transmitting resin into the cavities of the envelope adjusting jig;

a process for immersing the semiconductor
35 light-emitting element, the bonding wire, and the upper end of the leads in the light-transmitting resin in the

cavities and sealing this part with the light-transmitting resin; and

5 a process for removing the lead frame from the envelope adjusting jig and separating each group of leads from the lead frame.

7. A manufacturing process for a semiconductor light-emitting device as claimed in claim 6, further comprising a process for offsetting the lead frames
10 alternately at a suitable length only, so that the lead frames are respectively parallel.